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PATENT
Docket No. TUC920030050US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Yu-Cheng Hsu et al

Serial No.: 10/686,878

Filed: October 16, 2003

For: **APPARATUS SYSTEM AND METHOD FOR
DETERMINISTICALLY TRANSFERRING DATA
BY REBOOTING TO A DATA TRANSFER
KERNEL**

Group Art
Unit: 2436

Examiner: Carlton Johnson

REPLY BRIEF

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Examiner:

The USPTO received Appellant's timely Appeal Brief on March 22, 2011 (hereinafter Brief), which was filed in response to the Notice of Appeal filed on January 24, 2011, which was filed in response to the Final Office Action mailed November 22, 2010 (hereinafter FOA).

This Reply Brief is being filed under the provisions of 37 C.F.R. § 41.41 and in response to the Examiner's Answer mailed June 6, 2011, (hereinafter Answer). Appellant continues to appeal the rejection of pending claims 1, 3, 5-8, 10, 11, 13, 14, 16-22, and 24-30.

1. STATUS OF CLAIMS

The parties are in agreement as to the status of the claims as set forth in Appellant's Appeal Brief.

2. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The parties are in agreement on the grounds of rejection to be reviewed as set forth in Appellant's Appeal Brief.

3. ARGUMENT

I. The rejection of claims 1, 10, 13, 17, 24, and 28 under 35 U.S.C. §112, second paragraph is improper because one of skill in the art would be clearly understand that “loading only a data save operation” refers to loading instructions to perform a data save operation into memory and executing those instructions.

Summary of the Answer in relation to this argument

[001] The Examiner reiterates the arguments of the FOA in page 7 of the Answer. On page 33 of the Answer the Examiner further argues that there is no support in the specification for the limitation “...loading only a data save operation....”

Response

[002] Appellants disagree and respectfully reaffirm the arguments raised against the rejection of claims 1, 10, 13, 17, 24, and 28 set forth in the Appeal Brief, that claims 1, 10, 13, 17, 24, and 28 distinctly claim the subject matter of the invention.

[003] Appellants submit that page 7 of the FOA contains no argument that there is no support in the specification for the limitation “...loading only a data save operation....” In addition, as Appellants referenced in the Brief on page 3, the support for the limitation “...loading only a data save operation...” is found in application 10/686,878 (hereinafter ‘878) on page 11, lines 1-3; page 12, lines 15-20; fig. 2, ref. 220, 230; fig. 6, ref. 620, 630.

[004] Applicants reiterate that the claim language is clear to one of skill in the art and in light of the specification and that as a result particularly points out and distinctly claims the subject matter which the Appellant regards as his invention. “Office personnel must rely on the Appellant’s disclosure to properly determine the meaning of terms used in the claims.” MPEP § 2106. *Markman v. Westview Instruments*, 52 F.3d 967, 980, 34 USPQ2d 1321, 1330 (Fed. Cir.) (*en banc*), *aff’d*, U.S. , 116 S. Ct. 1384 (1996).

[005] The specification describes loading “...a data transfer process onto the processor module 310.” ‘878, page 12, lines 19-20. From the context of the specification, the meaning of the description would not be misconstrued by one of skill in the art. Appellants therefore submit

that the phrase “loading only a data save operation” result particularly points out and distinctly claims the subject matter which the Appellant regards as his invention, and satisfies the requirements of 35 U.S.C. § 112, second paragraph.

II. The rejection of claims 1, 3-7, 10, 11, 13-21, and 24-30 under 35 U.S.C. §102(e) as anticipated by Ghosh is improper because Ghosh fails to teach each element of the recited claims.

Summary of the Answer in relation to this argument

[006] The Examiner reiterates the arguments of the FOA in pages 8-20 of the Answer. The Examiner further argues that Ghosh discloses software that can be used to implement functions such as a data save operation utilizing writes to hard disk drives with write acknowledgements and a system boot activation procedure. Answer, page 35. The Examiner also argues that a reboot procedure will have the same result as deterministically terminating all existing processes and the standard operating kernel. Answer, pages 35-36. The Examiner further argues that Ghosh discloses a data transfer kernel loading only a data save operation by teaching software that can implement functions such as data save operations. Answer, page 37. In addition, the Examiner argues that Ghosh discloses shutting down the processor in response to completing a data save operation by teaching the capability to power up and power down the computing system. Answer, page 37. Beginning on page 38 the Examiner reiterates the arguments of pages 35 - 38. In addition, the Examiner asserts that independent claims 10, 13, 17, 24, and 28 are not allowable for the same reasons as claim 1, and that claims 3-7, 11, 14-16, 18-21, 24-27, 29, and 30 are not allowable as depending from allowable claims. Answer, page 40.

Response

[007] Appellants respectfully reaffirm the arguments raised against the rejection of claim 1, 3-7, 10, 11, 13-21, and 24-30 under 35 USC §103(a) set forth in the Brief and respond to the Examiner’s additional arguments.

[008] In the Answer, the Examiner again acknowledges that “Ghosh does not specifically disclose a kernel for saving data (data save kernel)” (data transfer kernel) as claimed for claim 1 Answer, page 23. Because Ghosh does not disclose the data transfer kernel of claim 1, Appellants submit that claim 1 is therefore allowable. Independent claims 10, 13, 17, 24, and 28 are allowable for the same reasons as claim 1.

[009] The Examiner argues that Ghosh discloses software that can be used to implement functions such as a data save operation utilizing writes to hard disk drives with write acknowledgements and a system boot activation procedure. Answer, page 35. Appellants respectfully disagree. Software kernels load multiple functions including data save operations. The data transfer kernel cited in claim 1 *only* loads a data save operation. This reduces the software overhead on the processor, speeding the execution of the data save operation. Ghosh does not teach this beneficial limitation, as Ghosh does not teaching limiting the operations that can be added.

[010] Claim 1 recites “...deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with a data transfer kernel in response to an abnormal operating condition that threatens a loss of the data in the volatile memory....” As the examiner notes, Ghosh does disclose rebooting the processor. Answer, page 36. However, Ghosh does not disclose rebooting the processor *with a data transfer kernel in response to an abnormal operating condition* that threatens a loss of the data in the volatile memory. Instead Ghosh teaches a power up sequence after remedying a power disruption. Ghosh, col. 6, lines 63-65; col. 10, lines 48-57. As discussed above, Ghosh does not teach the data transfer kernel. In addition, Ghosh does not disclose rebooting a processor in response to an abnormal operating condition.

[011] The Examiner argues that Ghosh discloses the data transfer kernel loading only a data save operation by teaching software that can implement functions such as data save operations. Answer, page 37. Appellants respectfully disagree. Software kernels load multiple functions including data save operations. The data transfer kernel cited in claim 1 is distinguished by *only* a loading a data save operation.

[012] The Examiner argues that Ghosh discloses shutting down the processor in response to completing a data save operation by teaching the capability to power up and power down the computing system. Answer, page 37. Appellants respectfully disagree. In Ghosh, the computer is shut down prior to the data save operation. See Ghosh, fig. 5, ref. 78, 80; fig. 6, ref. 82. Thus Ghosh does not teach shutting down the processor *in response to completing a data save operation* as recited in claim 1.

[013] The Examiner further argues that Ghosh discloses the “...deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with a data transfer kernel in response to an abnormal operating condition that threatens a loss of the data in the volatile memory...,” “...the data transfer kernel loading only a data save operation in response to rebooting the processor with the data transfer kernel...,” and “...shutting down the processor in response to completing the data save operation...” Appellants respectfully disagree.

[014] Ghosh discloses a transportable memory apparatus that detects a disruption of a power supply. Ghosh, col. 6, lines 63-65. If a cache is dirty, the cache is switched to an auxiliary power supply. Ghosh, col. 10, lines 17-23. The cache data, referred to as serial presence defect (SPD) data, is then available when a computer is rebooted. Ghosh, col. 11, lines 52-55. While Ghosh includes a data save operation and rebooting a computer, the interplay of the elements is completely different from those recited in claim 1.

[015] Claim 1 recites “...deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with a data transfer kernel in response to an abnormal operating condition that threatens a loss of the data in the volatile memory...,” but Ghosh does not boot the processor in response to an abnormal operating condition and does not boot a data transfer kernel. Instead, Ghosh boots the computer without precondition. Ghosh, fig. 5, ref. 68.

[016] Claim 1 recites “...the data transfer kernel loading only a data save operation in response to rebooting the processor with the data transfer kernel...,” but Ghosh does not teach limiting the operations that are loaded. Claim 1 recites “...shutting down the processor in

response to completing the data save operation...,” but Ghosh teaches shutting down the processor before a data save operation is complete. See Ghosh, fig. 5, ref. 68; fig. 6, ref. 82.

[017] Appellants therefore submit that claim 1 is allowable as Ghosh does not teach each element of claim 1, that independent claims 10, 13, 17, 24, and 28 are allowable for the same reasons as claim 1, and that claims 3-7, 11, 14-16, 18-21, 24-27, 29, and 30 are allowable as depending from allowable claims.

III. The rejection of claims 1, 3-7, 10, 11, 13-21, and 24-30 under 35 U.S.C. §103(a) as obvious in view of Ghosh and Kamada is improper because Ghosh and Kamada fail to teach each element of claims 1, 3-7, 10, 11, 13-21, and 24-30.

Summary of the Answer in relation to this argument

[018] The Examiner reiterates the arguments of the FOA in pages 20-32 of the Answer. The Examiner asserts that Ghosh and Kamada teach deterministically terminating all existing processes and a standard operating kernel. Answer, pages 40 to 41. The Examiner further argues that Ghosh discloses deterministically terminating all existing processes and the standard operating kernel by teaching rebooting. Answer, page 41. In addition, the Examiner asserts that Ghosh’s teaching of shutting down a computing system discloses rebooting a processor in response to an abnormal operation condition. Answer, page 41. The Examiner further asserts that Ghosh’s teaching of a reboot combined with a system shutdown discloses deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with the data transfer kernel in response to an abnormal operating condition that threatens a loss of data in the volatile memory. Answer, page 42. In addition, the Examiner argues that Ghosh and Kamada disclose a data transfer kernel loading only a data save operation in response to a reboot of the processor with a data transfer kernel. Answer, page 43. The Examiner further asserts that Ghosh teaches shutting down the processor in response to completing the data save operation. The answer, page 44. In addition, the Examiner reiterates the above arguments. Answer, pages 45 – 46. The Examiner further asserts that independent claims 10, 13, 17, 24, and

28 are not allowable for the same reasons as claim 1, and that claims 3-7, 11, 14-16, 18-21, 24-27, 29, and 30 are not allowable as depending from allowable claims. Answer, page 46

Response

[019] Appellants respectfully reaffirm the arguments raised against the rejection of claims 1, 3-7, 10, 11, 13-21, and 24-30 under 35 USC §103(a) set forth in the Brief. Appellants further respond to the Examiner's arguments in the Answer.

[020] The Examiner argues that Ghosh discloses "...deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with a data transfer kernel in response to an abnormal operating condition that threatens a loss of the data in the volatile memory..." by teaching rebooting. Answer, page 41. Appellants respectfully disagree. Ghosh does not boot the processor *in response to an abnormal operating condition* and does not boot a data transfer kernel. Instead, Ghosh boots the computer without precondition. Ghosh, fig. 5, ref. 68.

[021] The Examiner also asserts that Ghosh's teaching of shutting down a computing system discloses rebooting a processor *in response to an abnormal operation condition*. Answer, page 41. Appellants respectfully disagree. Ghosh discloses shutting down the computer if the cache contains dirty data and the battery backup mode is enabled. Ghosh, col. 10, lines 9-17; fig. 5, ref. 76. Ghosh does not teach all the elements of "...deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with a data transfer kernel in response to an abnormal operating condition that threatens a loss of the data in the volatile memory..." as Ghosh does not shut down the computer in response to an abnormal operation.

[022] The Examiner further asserts that Ghosh's teaching of a reboot combined with a system shutdown discloses deterministically terminate all existing processes and the standard operating kernel by rebooting the processor with the data transfer kernel in response to an abnormal operating condition that threatens a loss of data in the volatile memory. Answer, page 42. Appellants respectfully disagree as Ghosh does not reboot in response to the abnormal

operating condition, but only if there is no dirty data in the cache, or if the cache contains dirty data and the battery backup mode is enabled. Ghosh, col. 10, lines 9-17; fig. 5, ref. 76.

[023] The Examiner argues that Ghosh discloses a data transfer kernel loading only a data save operation in response a reboot of the processor with a data transfer kernel by teaching loading software that among other things saves data. Answer, page 43. Appellants respectfully disagree. However, Ghosh does not teach limiting the operations that are loaded to only a data save operation. As a result, Ghosh could allow operations to load that would impede a data save operation, contrary to the limitation of claim 1.

[024] The Examiner further asserts that Ghosh teaches shutting down the processor in response to completing the day to save operation. Answer, page 44. Appellants respectfully disagree. In Ghosh, the computer is shut down prior to the data save operation. See Ghosh, fig. 5, ref. 78, 80; fig. 6, ref. 82. Thus Ghosh does not teach shutting down the processor *in response to completing a data save operation* as recited in claim 1.

[025] The Examiner further argues that Ghosh discloses the “...deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with a data transfer kernel in response to an abnormal operating condition that threatens a loss of the data in the volatile memory...,” “...the data transfer kernel loading only a data save operation in response to rebooting the processor with the data transfer kernel...,” and “...shutting down the processor in response to completing the data save operation....” Answer, pages 44-46. Appellants respectfully disagree.

[026] Ghosh discloses a transportable memory apparatus that detects a disruption of a power supply. Ghosh, col. 6, lines 63-65. If a cache is dirty, the cache is switched to an auxiliary power supply. Ghosh, col. 10, lines 17-23. The cache data, referred to as serial presence defect (SPD) data, is then available when a computer is rebooted. Ghosh, col. 11, lines 52-55. While Ghosh includes a data save operation and rebooting a computer, the interplay of the elements is completely different from those recited in claim 1.

[027] Kamada teaches a kernel that spawns Java virtual machines for each Java application. Kamada, Abstract. Kamada further teaches an internal process generating unit of the kernel generating a class loader and a thread group. Kamada, page 3, ¶ 40.

[028] Claim 1 recites “...deterministically terminating all existing processes and the standard operating kernel by rebooting the processor with a data transfer kernel in response to an abnormal operating condition that threatens a loss of the data in the volatile memory...,” but Ghosh does not teach booting the processor in response to an abnormal operating condition and does not boot a data transfer kernel. Instead Ghosh boots the computer without precondition. Ghosh, fig. 5, ref. 68.

[029] Claim 1 recites “...the data transfer kernel loading only a data save operation in response to rebooting the processor with the data transfer kernel...,” but Ghosh and Kamada do not teach limiting the operations that are loaded. Claim 1 recites “...shutting down the processor in response to completing the data save operation...,” but Ghosh teaches shutting down the processor before a data save operation is complete rather than in response to the completed data save operation. See Ghosh, fig. 5, ref. 78, 80; fig. 6, ref. 82. Kamada also does not teach shutting down a processor in response to completing a data save operation.

[030] Appellants therefore submit that claim 1 is allowable as the combination of Ghosh and Kamada do not teach each element of claim 1, that independent claims 10, 13, 17, 24, and 28 are allowable for the same reasons as claim 1, and that claims 3-7, 11, 14-16, 18-21, 24-27, 29, and 30 are allowable as depending from allowable claims.

SUMMARY

In view of the foregoing, Appellants respectfully assert that each of the claims on appeal has been improperly rejected because the rejections under 35 U.S.C. §112, second paragraph and §103(a) are improper. Therefore, Appellants respectfully request reversal of the Examiner's rejections under 35 U.S.C. §112, second paragraph and 35 U.S.C. §103(a), and urges that pending claims 1, 3, 5-8, 10, 11, 13, 14, 16-22, and 24-30 are ready for prompt allowance. Appellants appeal to the Board's objective and reasoned decision on this matter.

Respectfully submitted,

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